Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
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Amendment of Part 97 of the Commission's Amateur Radio Service Rules to Permit Greater Flexibility in Data Communications	)))	WT Docket 16-239

Comments of ARRL, The National Association For Amateur Radio

ARRL, The National Association for Amateur Radio, also known as the American Radio Relay League, Incorporated (ARRL), submits these comments in response to the Further Notice of Proposed Rulemaking (FNPRM) issued in the above-referenced proceeding.[1]

ARRL supports removing the symbol (baud) rate limitations on all bands as proposed. After careful consideration, the ARRL asks the Commission also to delete the existing bandwidth limits on the subject bands.

Symbol Rate and Bandwidth Limits Both Should be Deleted

Given the limited propagation range and history of voluntary cooperation on the subject bands, both LF and VHF/UHF, maintaining the symbol (baud) rate and bandwidth limits would continue to encumber Amateur experimentation with new modes and techniques without offering countervailing benefits. The Commission has recognized the differences between the bands subject to the FNPRM ("subject bands") and the HF bands addressed earlier in this proceeding by generally not subdividing the subject bands by mode.

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[1] Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 16-239, FCC 23-93, at paras. 20-23 (released Nov. 13, 2023), 88 Fed.Reg. 85171 (publ. Dec. 7, 2023).

Instead of continuing to restrict Amateur operations by limiting the symbol (baud) rate and signal bandwidth limits, ARRL suggests that a better approach is to rely on the good operating practices generally observed on the subject bands and the existing FCC Amateur Part 97 regulations that require each licensee to operate with "good engineering and good amateur practice", to "cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies", to never "willfully or maliciously interfere with or cause interference to any radio communications or signal", and to limit bandwidth to the minimum necessary for the information rate and emission type employed.[2]

The ARRL has a published voluntary band plan that provides the means for local coordination and additional guidance for each of the subject bands[3] and will revisit its recommendations for these bands to ensure that they continue to reflect current usage and good amateur practice as defined in Part 97.101(a). The ARRL also maintains a volunteer monitoring program that in many instances is successful in offering informal advice to amateurs observed to be operating in a manner that may not comport with good amateur practice or the Commission's regulations.[4] Finally, amateur frequency coordinators are volunteers who, with the voluntary participation of the amateur community in the areas they serve, keep records of VHF/UHF repeater input, output and control frequencies. The coordinator recommends frequencies for proposed new repeaters in order to minimize interference with other repeaters and simplex operations.[5] Together, these volunteer activities have proven effective at preventing harmful interference among amateur stations on the subject bands without mode restrictions. Since the different modes already permitted have significantly different bandwidths and requirements, removing the symbol (baud) rate and bandwidth limitations from digital signals is unlikely to negatively affect coordination efforts nor increase instances of interference.

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[2] *See* 47 C.F.R. §§ 97.101, 97.307(a).

[3] *See* https://www.arrl.org/band-plan.

[4] ARRL Volunteer Monitors look for and recognize examples of good operating as well as for operating discrepancies. *See* https://www.arrl.org/news/volunteer-monitor-program-recognizes-good-operators and https://www.arrl.org/volunteer-monitor-program.

[5] The ARRL does not coordinate repeaters as part of its mission, but as a service publishes and disseminates repeater information and coordinator details when known. *See* https://www.arrl.org/frequency-coordinators.

By-and-large, the band subdivisions recognized and observed every day by licensees are subdivisions that either are those recommended in the ARRL's voluntary band plan or other, usually local, practices. These cooperative uses constitute the "good amateur practice" recognized and mandated by Section 97.101, *supra,* and historically have applied in the subject bands instead of the less flexible HF subbands divided by mode that are mandated by regulation due to the more crowded and far-reaching nature of propagation in those bands.

The history of the first phase of this proceeding demonstrates the difficulty of accommodating fast-paced technological change. The reasons for the more regulatory approach in the HF range are mostly absent in the LF, VHF and UHF bands that are subject to the FNPRM, and those differences underly the difference in approach suggested herein by ARRL.

Below we address the subject bands.

135.7-137.8 kHz (2200 Meter) and 472-479 kHz (630 Meter) Bands

These two bands were allocated to the Amateur Service in 2017 after years of experimentation conducted by Radio Amateurs pursuant to experimental licenses issued under Part 5 of the FCC's Rules followed by favorable action at WRC-2012.[6] The Commission added a 300 baud symbol rate limit for both bands when adopting the new WRC allocations that is not included in the international allocation nor adopted in any other country.

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[6] *See* Amendment of Parts 2, 15, 80, 90, 97, and 101 of the Commission's Rules Regarding Implementation of the Final Acts of the World Radio Conference (Geneva, 2012) (WRC-2012), Other Allocation Issues, and Related Rule Updates, ET Docket No. 15-99, Report and Order, 32 FCC Rcd 2703, 2708 (2017).

These two bands are used principally by Amateur Radio operators for experiments related to propagation observations. Power and antennas are extremely limited (no more than 1 watt EIRP in the 2200 meter band and 5 watts EIRP in the 630 meter band except 1 watt EIRP in Alaska within 496 miles of Russia). These practical power limits at Amateur levels, coupled with static and other natural noise, make these frequencies most appropriate for study and experimentation on a regular basis. Amateurs have developed digital codes specifically designed for use at these frequencies that are deployed as well as traditional CW. There is no apparent need to limit baud rate nor bandwidth on either of these bands.

50-54 MHz (6 Meter) and 144-148 MHz (2 Meter) Bands

The bottom 100 kHz of each band, 50.0-50.1 MHz and 144.0-144.1 MHz, is reserved for CW only and therefore not available for digital applications.[7] All modes are authorized without distinction in the remainder of these two bands.[8] A symbol rate limit of 19.6 kilobauds applies to transmissions employing specified digital modes, and a 20 kHz bandwidth limit is applied to unspecified digital modes. Both limits should be deleted for the reasons stated above.

219-220 MHz (1.25 Meter Digital) Band

This band is allocated to the Amateur Radio Service solely for use by fixed point-to-point stations for forwarding digital messages. There is no symbol rate limit associated with this

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[7] *See* 47 C.F.R. § 97.305.

[8] *Id.*

segment, but there is a 100 kHz bandwidth limit.[9] The bandwidth limit hampers experimentation and should be deleted.

222-225 MHz (1.25 Meter) and 420-450 MHz (70cm) Bands

All modes are authorized without distinction in these two bands.[10] These two bands have identical symbol rate limits of 56 kilobauds applicable to transmissions employing specified digital modes and 20 kHz bandwidth limits applicable to unspecified digital modes. Both the symbol rate and the bandwidth limit should be deleted for the reasons stated above.

Conclusion

ARRL supports removing the symbol (baud) rate and bandwidth limitations on all of the bands addressed in the FNPRM. As explained above, the existing limits encumber Amateur experimentation with new modes and techniques without offering countervailing benefits.

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[9] *See* 47 C.F.R. § 97.307(f)(13).
[10] *See supra* note 7.